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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/618,454	07/11/2003	Jay P. Morreale	9005/7	3858

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EXAMINER	
TRAN, DZUNG D	

ART UNIT	PAPER NUMBER
2613	

DATE MAILED: 08/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/618,454	MORREALE ET AL.	
	Examiner	Art Unit	
	Dzung D. Tran	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 January 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-62* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-62* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-4, 14-19, 43-46 and 54-60 are rejected under 35 U.S.C. 102(e) as being anticipated by Homsey U.S. Patent no. 6,708,004.

Regarding claim 1, Homsey discloses a method for monitoring the status of an optical transmission path employed in a WDM transmission system and for transmitting service data over the optical transmission path, said method comprising the steps of:

a transmitter 16 for transmitting the service data as an optical service signal carried at a first channel wavelength over the transmission path (col. 2, lines 62-64); and

a LME 12 for monitoring status information pertaining to the transmission path by receiving an optical monitoring signal in which said status information is embodied, said optical monitoring signal being carried at said first channel wavelength over the transmission path (col. 2, lines 56-59).

Regarding claim 2, Homsey discloses wherein the monitoring step employs OTDR (col. 3, lines 47-59).

Regarding claims 3 and 4, Homsey discloses in Figure 1, the optical transmission path comprises first and second unidirectional optical transmission paths (e.g., paths 28 and 29; col. 3, lines 17-18) having at least one repeater 36 therein (col. 2, lines 37-38).

Regarding claims 14-16, Homsey discloses service signal includes control and status data (e.g., in col. 3, lines 60-63, Homsey discloses service signal or monitoring signal 52 caries all signal present on fiber 28, thus it is inherently that service signal includes control and status data).

Regarding claim 17, Homsey discloses for transforming the optical service signal to an electrical signal (col. 4, lines 1-5).

Regarding claim 18, Homsey discloses in col. 3, lines 60-63 a service signal or monitoring signal 52 caries all signal present on fiber 28, thus it is inherently that the status information includes information pertaining to discontinuities in the optical transmission path that give rise to optical attenuation.

Regarding claim 19, Homsey discloses in Figure 1,coupler 34 for multiplexing customer-data (e.g., from transmitter 30; col. 3, lines 25-26) with the optical service signal carried at the first channel wavelength, said customer-data being carried at one or more channel wavelengths different from said first channel wavelength (col. 3, lines 25-40).

Regarding claim 43, Homsey discloses a WDM optical communication system, comprising:

a transmitting terminal (e.g., a terminal that includes transmitter 30) for transmitting customer data as an optical data signal carried at one or more channel wavelengths (col. 3, lines 25-26) and service data as an optical service signal carried at a first channel wavelength (e.g., tone signal wavelength) different from said one or more channel wavelengths;

a receiving terminal (e.g., a terminal that includes receiver 31);

an optical transmission path 28, 29 optically coupling the transmitting and receiving terminals, said optical transmission path having at least one optical amplifier 36 therein; and

line monitoring equipment (e.g., LME 12 for obtaining, at said first channel wavelength, status information pertaining to the transmission path.

Regarding claim 44, Homsey discloses wherein said line monitoring equipment is an OTDR data acquisition arrangement. (col. 3, lines 47-59).

Regarding claims 45 and 46, Homsey discloses in Figure 1, the optical transmission path comprises first and second unidirectional optical transmission paths (e.g., paths 28 and 29; col. 3, lines 17-18) having at least one repeater 36 therein (col. 2, lines 37-38).

Regarding claims 54-56, Homsey discloses service signal includes control and status data (e.g., in col. 3, lines 60-63, Homsey discloses service signal or monitoring

signal 52 caries all signal present on fiber 28, thus it is inherently that service signal includes control and status data).

Regarding claim 57, Homsey discloses for transforming the optical service signal to an electrical signal (col. 4, lines 1-5).

Regarding claim 58, Homsey discloses in col. 3, lines 60-63 a service signal or monitoring signal 52 caries all signal present on fiber 28, thus it is inherently that the status information includes information pertaining to discontinuities in the optical transmission path that give rise to optical attenuation.

Regarding claim 59, Homsey discloses in Figure 1,coupler 34 for multiplexing customer-data (e.g., from transmitter 30; col. 3, lines 25-26) with the optical service signal (col. 3, lines 25-40).

Regarding claim 60, Homsey discloses the optical service signal is encoded as a pseudo-random signal (col. 2, lines 59-61).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 5-13, 20-42, 47-53, 61 and 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Homsey U.S. Patent no. 6,708,004.

Regarding claims 5, 6, 22, 23, 47 and 48, Homsey discloses for transmitting an OTDR signal (e.g., equivalent to a probe signal; col. 4, lines 42-56) along the transmission path and optical monitoring signal being a backscattered and reflected signal (col. 4, line 42 to col. 5, line 5). Homsey differs from claims 5, 6, 22 and 23 in that he does not specifically discloses the OTDR signal (e.g., equivalent to a probe signal; col. 4, lines 42-56) having the same wavelength with the monitoring signal. However, whether or not to have OTDR signal having the same wavelength as the monitoring signal is merely an engineering design choices.

At the time of the invention was made, it would have been obvious to one of ordinary skill in the art to set the OTDR or probe signal and monitoring signal at the same wavelength so that the system need only one filter for separating the data signals and the monitoring signal.

Regarding claim 7, Homsey discloses for transmitting an OTDR signal (e.g., equivalent to a probe signal; col. 4, lines 42-56) along the first unidirectional transmission path at said first channel wavelength, said optical monitoring signal being a backscattered and reflected signal received along the second unidirectional optical transmission path (col. 4, line 42 to col. 5, line 5).

Regarding claims 8, 9, 29 and 30, Homsey discloses in Figure 1, a backscattered and reflected signal traverses an optical loopback path coupling the first and second unidirectional transmission paths (Figure 1; col. 4, line 42 to col. 5, line 5).

Regarding claims 10 and 31, Homsey discloses in Figure 1, optical loopback path 42 is located in said repeater 36.

Regarding claims 35-37, Homsey discloses service signal includes control and status data (e.g., in col. 3, lines 60-63, Homsey discloses service signal or monitoring signal 52 caries all signal present on fiber 28, thus it is inherently that service signal includes control and status data).

Regarding claim 38, Homsey discloses for transforming the optical service signal to an electrical signal (col. 4, lines 1-5).

Regarding claim 39, Homsey discloses in col. 3, lines 60-63 a service signal or monitoring signal 52 caries all signal present on fiber 28, thus it is inherently that the status information includes information pertaining to discontinuities in the optical transmission path that give rise to optical attenuation.

Regarding claims 20-21, 40-42, Homsey discloses in Figure 1,coupler 34 for multiplexing customer-data (e.g., from transmitter 30; col. 3, lines 25-26) with the optical service signal carried at the first channel wavelength, said customer-data being carried at one or more channel wavelengths different from said first channel wavelength (col. 3, lines 25-40).

Regarding claims 24 and 25, Homsey discloses in Figure 1, the optical transmission path comprises first and second unidirectional optical transmission paths (e.g., paths 28 and 29; col. 3, lines 17-18) having at least one repeater 36 therein (col. 2, lines 37-38).

Regarding claims 26-28, Homsey discloses in Figure 1, LME 12 for receiving an optical monitoring signal 52 along the transmission path at said first channel wavelength.

Regarding claim 49, Homsey discloses in Figure 1, a backscattered and reflected signal traverses an optical loopback path coupling the first and second unidirectional transmission paths (Figure 1; col. 4, line 42 to col. 5, line 5).

Regarding claim 50, Homsey discloses in Figure 1, optical loopback path 42 is located in said repeater 36.

Regarding claims 61-62, Homsey discloses the optical service signal is encoded as a pseudo-random signal (col. 2, lines 59-61).

Regarding claims 11-13, 32-34 and 51-53, Examiner take an official notice that time division multiplexed is well known in the art for transmitting the difference signal over the same wavelength. At the time of the invention was made, one of ordinary skill in the art would have been motivated to use TDM technique for transmitting the testing signal and the monitoring at the same wavelength.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Jensen U.S. Patent no. 5,969,833. Monitoring system using an optical side tone as a test signal

b. Chen et al. U.S. Patent no. 6,327,250. Method and apparatus for suppressing crosstalk between data and monitoring channel in an optical communication system

c. Jensen U.S. Patent no. 6,323,981. Method and apparatus for detecting intermittent faults in an optical communication system

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dzung D Tran whose telephone number is (571) 272-3025. The examiner can normally be reached on 9:00 AM - 7:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan, can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dzung Tran
Dzung Tran
08/02/2006